Clean Air Act Compliance Inspection Report

United States Environmental Protection Agency
Region 10 – Seattle, WA

Clean Air Act Full Compliance Evaluation Inspection Report

Nordlund Boat Company

Tacoma, Washington

Inspection Date: June 9, 2022

SARA CONLEY
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Date: 2022.08.24 12:17:55 -07'00'

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Sara Conley
CAA Inspector
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Brendan Whyte
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Section Chief Signature Date

Derrick Terada
ATES Section Chief
EPA Region 10

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Attachments

1. Basic Facility and Inspection Information

Facility:	Nordlund Boat Company
Physical Address:	1626 Marine View Drive, Tacoma, WA 98422
ICIS-Air ID:	100000000000000098
NAICS:	336612 (Boat Building)
Facility Contact:	Jason Machovsky CEO Nordlund Boat Company jason@nordlundboat.com
U.S. EPA Inspectors:	Sara Conley Air and Toxics Enforcement Section (ATES) Enforcement and Compliance Assurance Division (ECAD) U.S. EPA Region 10 1200 Sixth Ave. Seattle, WA 98101 (206) 553-6914 conley.sara@epa.gov Brendan Whyte ATES, ECAD U.S. EPA Region 10 1200 Sixth Ave. Seattle, WA 98101 (206) 553-6914 Whyte.brendan@epa.gov Elly Walters ATES, ECAD U.S. EPA Region 10 1200 Sixth Ave. Seattle, WA 98101 (206) 553-6914 walters.elizabeth@epa.gov
Date of Inspection:	June 9, 2022

Inspection Start/End Time:	Onsite at 1:30 PM, Jason Machovsky joined us in the conference room at about 1:40 PM and we began the opening conference. The inspection concluded at 3:30 PM.
Date of Report:	August 24, 2022
Inspection Notice:	Unannounced
Purpose of Inspection	This was a multi-media Clean Air Act (CAA) and Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 compliance inspection by the Environmental Protection Agency (EPA). Inspector Conley, EPA Region 10, led the CAA inspection covered in this report. The Puget Sound Clean Air Agency (PSCAA) was made aware of the inspection beforehand but did not participate in the inspection. The inspection was not announced in advance.

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection. The information provided does not constitute a final decision on compliance with CAA regulations or applicable permits, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

2. Process Description and Facility Notes

a) This process description is based on my observations as well as statements made by facility personnel while onsite during the inspection.
b) General Facility Notes
    1. General Process Description – The facility is primarily focused on fiberglass boat building, repair, and retrofit. They are currently not performing any new construction, but they can accommodate construction of four yachts at a time. Each yacht takes approximately three years to complete. Currently, the primary business at the company is pilot boat construction and refits. They can see about 15-20 boats per month for repair and refits.
    2. Processes
        i. Fiberglass – Facility performs resin infusion and layup using vinyl ester resins. Some carbon fiber work is done as well.
        ii. Gel coat – The facility performs gel coat operations. Pigmented gel coats are purchased pre-mixed on a project specific basis.
        iii. Tooling resin – The facility uses tooling resin. They have a tooling gel coat that they use in molds.
        iv. Molding – Every fiberglass boat component is produced onsite using open or closed molding.
        v. Woodworking – Small-scale cabinetry work and repair is done onsite, including finishing. There is a woodshop onsite for cutting, building, and finishing woodwork for boat interiors. Full interiors for newly constructed vessels are built offsite and installed after they are shipped to the facility.

vi. Interiors – The facility installs all carpet (including glues), paint, and mechanical equipment onsite.
vii. Engines – Jason Machovsky said that all engines installed in the boats are Tier III and certified by the manufacturer. Pilot boats have Caterpillar 3412 engines that they may repower with Tier III or Tier IV engines.
viii. Welding shop and metal shop – 95% of the work in the welding shop is on stainless steel.

3. Compliance History

A review of EPA's Enforcement and Compliance History Online (ECHO)[1] database shows that at the time of the inspection, the facility was reported as having no air enforcement activities in the last 5 years. However, ECHO indicates that there have been violations of the Clean Water Act for the last 6 quarters. PSCAA conducted onsite inspections at the facility in 2019 and 2013. A verbal warning was issued in 2019 for not taking corrective action when filters were out of range. A written warning was issued in 2013 for failure to maintain maintenance logs including pressure drop recordings per NOC 8156. PSCAA activities are not in ECHO.

4. Records Review

Records Request

Because this inspection was unannounced, EPA requested records upon arrival at the onsite inspection. The facility responded to the records request by email, final records were received on 8/10/2022.

Records Requested:

1. HAP and VOC emissions from the boat manufacturing facility and all other sources that are collocated and under common ownership or control with the boat manufacturing facility for the last 24 months.
2. Total monthly usage for the past 24 months all combined polyester-and vinyl ester-based resins and gel coats (including tooling and production resins and gel coats, and clear gel coats).
3. Records of the total amount of all combined polyester-and vinyl ester-based resins and gel coats (including tooling and production resins and gel coats, and clear gel coats) used each month, and, if necessary, the HAP content of each material and the calculation of the total HAP consumed each month. You do not need to include materials used in routine janitorial, building, or facility grounds maintenance; personal uses by employees or other persons; or products used for maintaining motor vehicles operated by the facility.
4. I am specifically focused on the following aspects of the boat manufacturing operation, let me know if you don't do any of these things:
5. Open molding resin and gel coat operations (including pigmented gel coat, clear gel coat, production resin, tooling gel coat, and tooling resin).
6. Closed molding resin operations.

[1] https://echo.epa.gov/

7. Resin and gel coat mixing operations.
8. Resin and gel coat application equipment cleaning operations.
9. Carpet and fabric adhesive operations.
10. Aluminum hull and deck coating operations, including solvent wipe down operations and paint spray gun cleaning operations, on aluminum recreational boats.

The facility responded to most of these items in an excel spreadsheet that can be made available.

5. Inspection Elements and Field Observations – June 9, 2022

a) Making Entry

1. We arrived onsite at 1:30 PM. At 1:40 PM we were met and taken to a conference room by Jason Machovsky. We each introduced ourselves and showed Jason our identification.

b) Opening Conference (6/2/22, 9:25 – 10:10)

1. Attendees

   - Jason Machovsky – CEO/Owner
   - Sara Conley – Inspector, EPA Region 10
   - Brendan Whyte – Inspector, EPA Region 10
   - Elly Walters – Inspector, EPA Region 10

2. Discussed scope of inspection, generally, to include a partial facility walkthrough and an inspection of the associated control devices.

   a. Brendan explained that he was there to conduct a TRI inspection and I explained that I would be conducting a Clean Air Act inspection. We then provided the Notice Regarding Proprietary/Confidential Business Information (CBI) and Small Business Resources Information Sheet. Elly explained that she would be taking photos, to please notify us if anything we recorded was CBI, and that we had brought a FLIR camera to identify volatile emissions.

      i. Jason explained that he purchased the company from the Nordlund family in September of 2022. As part of the purchase, the facility did some Tier II environmental work. Jason explained how he became involved with the company and he walked us through some of the facility history and boat building process conducted on site. Details of the process description in Section 2 were described in the opening conference.

c) Field Observations (6/2/2022, 10:10 am – 10:50 am)

1. **Fiberglass Fabrication Shop:** Following the opening conference discussion, the group proceeded outside and headed toward the fiberglass shop. There was a strong styrene odor at the threshold of the building and inside the building. The fabrication shop is where hard top fabrication takes place as well as hull repair and other activities. I saw cutting saws and mixing and infusion pumps which are used for wet outs. Some of the wet out areas have spray guns and some have

vacuum systems. In the fabrication shop the spray area filter is marked as filter "#1" and filter "#11", the gauge reads 0.05"WC when turned on. This may correspond to the dry filter system in spray coating area "A" listed in PSCAA NOC 8156. In the fiberglass fabrication shop there is an acetone area and solvent recycling system. This area is handled by Fred Madrid, Fiberglass Department Lead, who was not onsite. Inside the fiberglass fabrication shop there was one large boat, located inside a double tent within the shop. Jason told me that they build inside the double tent for dust mitigation and the tent is ducted to a ventilation system. I did not see anything in the PSCAA permits about the ventilation system. I saw three filters on the tent. Jason noted that they keep the tents closed while spraying or applying wet material. The fiberglass fabrication shop had two cutting saws and the entire area was very dusty.

2. **Main Shop** - We next headed to building 1626 which includes Bays 1, 2, 3. Jason referred to this are as the "Main Shop." The dry filter system spray coating area in the main shop had a log, however, the last entry was recorded in 2013. Jason told me that coatings were being applied in the cabin area of the ship in Bay 2, this was ducted to the wall filter/dry filter system.

3. **Carpentry Shop –** We moved to the lower floor and walked by the carpentry shop where they make cabinets and other woodwork. There were 4 saws and a grinder in the carpentry shop as well as a dust collector for sawdust.

4. **Spray Room and Paint Shop/Spray Room-** After the carpentry shop we headed outside to the two spray rooms in a building located east of the paint storage shipping container. Jason explained that each project has its own custom coatings which are tracked via purchase order but are not predictable from year to year. We enter the "small" paint room which is referred to as a booth. Jason explained that there are floor heaters in this room, and they call it booth #3. In the same structure one room over is the "big paint booth" and the gauge for this filter is marked with "#4". Small parts are brought to these booths for coating.

5. **Metal and welding shop –** We enter the welding shop where there were approximately a dozen welding machines. Five of them were large welders, all welding machines are used for small parts. In the metal shop there is a fan pulling outside air into the space where an employee is polishing using a wheel, and through a filter wall. Jason said that 95% of the metal they use is stainless steel.

6. **Returned to the main office at 3:00 PM.**

d) Closing Conference (3:04 PM – 3:20 PM)

1. The closing conference was held beginning at 3:04 PM. The list of attendees is included below. I told Jason that I did not have any immediate compliance concerns, but would need to request further information in order to assess compliance. We discussed the records requests for TRI and for the CAA. I specified that we'd interested in two years of records on HAP containing chemicals and their purchase, and that I'd follow up with an email of my specific questions. I also asked for filter maintenance records. Jason asked if he needed a

consultant and we told him that it was his choice and offered that sometimes a material supplier can provide the correct records.

2. Attendees:
    a. Jason Machovsky - Owner
    b. Sara Conley, Brendan Whyte, Elly Walters - EPA Region 10.
3. The inspectors departed the facility around 3:20 PM.

6. Post-inspection

We received notification from Jason Machovsky on July 1, 2022, that he had hired a consultant and he was working on responding to the records request. On July, 29, 2022 we received an estimate of PTE from the consultant based on the last 2 years of activity at the facility. The following table summarizes some of what we received from the facility describing the material usage and potential emissions.

1. **Chemical usage in finishes, solvents, resins, and gel coats for RY 2021**

Calendar Year	Chemical	Activity *	Total Pounds of Chemical
2021	1,2,4-Trimethylbenzene	OU	216.51
2021	Barium Compounds	P	1.34
2021	Cobalt Compounds	P	12.12
2021	Copper Compounds	P	1,062.32
2021	Cumene	OU	13.47
2021	Diisocyanates	P	68.03
2021	Ethylbenzene	OU	30.35
2021	Glycol Ethers	OU	10.72
2021	Isopropanol	OU	80.57
2021	Methanol	OU	29.91
2021	Methyl isobutyl ketone	OU	14.20

2021	Methyl methacrylate	P	10.83
2021	n-Butyl alcohol	OU	73.47
2021	Styrene	P	1,331.34
2021	Toluene	OU	95.48
2021	Xylene (mixed isomers)	OU	85.47
2021	Zinc Compounds	P	346.53

**Activity: M = Manufactured, P = Processed, OU = Otherwise Used*

2. **Chemical usage in resins and gel coats for RYs 2019 and 2020**

Calendar Year	**Chemical**	**Activity ***	**Total Pounds of Chemical**
2020	Cobalt Compounds	P	29.46
2020	Methyl methacrylate	P	42.57
2020	Styrene	P	2,441.75
2019	Cobalt Compounds	P	48.71
2019	Ethylbenzene	OU	14.68
2019	Methyl methacrylate	P	73.40
2019	Styrene	P	6,428.49

**Activity: M = Manufactured, P = Processed, OU = Otherwise Used*

Figure 1: Facility submitted a estimate of PTE for Styrene as requested for our applicability analysis for Boat Manufacturing NESHAP 40 CFR Part 63 VVVV.

Table 3.3 Estimated Potential to Emit Styrene, TPY

Item ID	Description	Estimated Lb/Used per Max R12 months	Open Molded - 20% of Resin, all GC	Vaccuum Infused - 80% of Resin, no GC	Styrene Wt Fraction	Styrene Emitted at Maximum Production						
						Open Molding			VI Closed Molding			TOTAL
						Lb Styrene Used	Spray EF Lb/Lb Used	Lb Emitted	Lb Styrene Used	VI EF Lb/Lb Used	Lb Emitted	Tons Emitted
33350-15	Hydrex 100 VE Resin	12851	2570	10281.04	0.44	1130.9	0.259	293.10	4,523.66	0.01	45.24	0.169
33375-00	Hydrex 100 HF VE Resin	1147	229.5	917.95	0.32	73.4	0.144	10.55	293.74	0.01	2.94	0.007
H100 KPA-25	AOC VE Resin	0	0.0	0.00	0.345	0.0	0.163	-	-	0.01	-	-
Fiberlay GC1	Whisper Gray Gelcoat	0	0.0	0.00	0.37	0.0	0.509	-	-	0.01	-	-
Fiberlay GC2	Other Fiberlay Gelcoats	6.38	6.38	0.00	0.33	2.1	0.445	0.94	-	0.01	-	0.000
944WK296	White Polycor Gelcoat	1278	1278	0.00	0.3027	386.8	0.445	172.11	-	0.01	-	0.086
40314009TF	Duratech White Gelcoat	0	0.0	0.00	0.30	0.0	0.445	-	-	0.01	-	-

Max Annual Tons Emitted	0.262
% of 10 ton MACT Threshold	2.6%
Max Annual Tons Processed	3.21
Effective EF, % of Styrene Run	8.2%

Potential to Emit (PTE) is limited by the capacity of the fiberglass shop to construct an unfinished boat - in any year only one boat can fit in the fiberglass shop. Resin in boat hulls is applied by Vacuum Infusion (VI). PTE for vacuum infusion is calculated based on estimated material usage for the largest boat that could be made in a year. Resin and GC usage for repairs is estimated by the ratio (maximum usage of VI processed material) / (VI processed material in Table 3.1) x the material open molded in Table 3.1.

At maximum physical capacity, only 3.21 tons of styrene are processed. Therefore it is impossible for plant styrene emissions to exceed the 10 ton threshold that would make the facility a major source subject to applicable MACT rules and Title V permitting. Across VI and open molding, the effective (mass-weighted average) EF is 8.2% of styrene processed at this plant, so estimated PTE is far below the 10-ton threshold.

EPA will meet with PSCAA in August, 2022, to provide them with a preliminary overview of the inspection.